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VALIDATION OF THE AMPF*L*STR® MINIFILER™ KIT FOR UNIDENTIFIED HUMAN REMAINS USING THE APPLIED BIOSYSTEMS VALID™ SOFTWARE AS A VALIDATION AID

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Applied Biosystems has developed and recently released a new typing kit targeting eight reduced amplicon-size STR (miniSTR) loci plus amelogenin to serve as an adjunct to the AmpF*l*STR® Identifiler™ and other STR typing kits. The utility of miniSTR typing strategies has proven advantageous when highly damaged/degraded DNA samples must be tested, such as in the case of unidentified human remains, mass disaster/mass fatality samples or evidence subjected to other extreme environmental insults. The UNT System Center for Human Identification is tasked with the role of testing unidentified human remains and family reference samples submitted by law enforcement agencies throughout the United States. Many of the unidentified remains samples fail to provide a full STR profile when typed with the traditional STR typing kits. This is highly problematic as the proper evaluation of familial relationships using STR markers typically requires more genetic data than is usually required for a standard forensic match. We have validated the new AmpF*l*STR® Minifiler™ kit to provide our laboratory with the capability of gleaning more autosomal DNA data from the remains that we test. Our validation process was performed in concert with an evaluation of a new software package, VALID™, developed by Applied Biosystems. VALID™ provides a tool box used to develop, organize, track and summarize the typical experiments necessary for the forensic validation of a STR typing kit, as well as other features for instrument precision, performance checks and analyst training. Our presentation will include the results of our AmpF*l*STR® Minifiler™ kit validation in the context of the VALID™ software's tracking, analysis, and reporting tools. Through the utilization of VALID™, a laboratory can better summarize and visualize a broader spectrum of their validation data, resulting in more appropriate and consistent interpretation policies.